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TRANSLATIONS ON EASTERN EUROPE

SCIENTIFIC AFFAIRS

No. 571

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INTERNATIONAL AFFAIRS

CEMA COOPERATION IN MOLECULAR BIOLOGY RESEARCH DISCUSSED

East Berlin PRESSE-INFORMATIONEN in German No 146, 9 Dec 77, pp 4-5

[Article by Dr Gert Wangermann and Dr Rolf Kraushaar, Central Institute for Molecular Biology, GDR Academy of Sciences: "Cooperation Improves Effectiveness of Molecular Biology Research"]

[Text] Molecular biology essentially means tracing the structure and function as well as the development of the living cell back to the properties and interactions of its molecular constituents. In past years, fundamental discoveries have been made with great theoretical and practical significance for agriculture, medicine and a number of industries. For this reason, the Ninth SED Congress' directive for the five-year plan for the development of the GDR's national economy from 1976 to 1980 established that in natural scientific-technical basic research, increased efforts are to be made toward explanation of nucleic acid and protein synthesis, of molecular and cellular genetics as well as of antibiotic and alkaloid development. Thus, the examination of the structure, the formation and functions of nucleic acids forms a primary task in modern molecular biology. Next to the proteins, they are the most important group of substances for the development and maintenance of the life process. Today we know, for example, that nucleic acids are the carriers and transmitters of genetic data without which identical multiplication of cells and thus the maintenance of life would not be possible.

Cooperation in the Intercosmos Program

In this field, characterized by a rapid development pace, the growing interconnection of the GDR's scientific potential with the other CEMA countries is an important prerequisite for the required high efficiency and the necessary advancement of knowledge. The Central Institute for Molecular Biology of the GDR Academy of Sciences, which arose in 1972 from the merger of several small distinguished scientific organizations, has, since its inception, placed great value on research cooperation. It maintains close contacts with partner organizations in the USSR, for example, with the institutes of the Center for Biological Research in

Pushchino and with the Institute for Molecular Biology of the USSR Academy of Sciences in Moscow. Moreover, there are concrete agreements for cooperation with the Institute for Nuclear Research in Dubna, to investigate the effects of radiation upon biological specimens. The opportunity offered to the Institute to participate in the Intercosmos Program proves to be particularly fruitful for the perfection of its own research methodology and for the achievement of results in keeping with the world standard. Thus with the help of mathematical models of radiation effects, important results have been achieved regarding causes and modes of change in the genetic structure in biological specimens. They are useful to human medicine as well as to veterinary medicine. With the help of Intercosmos experiments, it has also been possible to develop pharmaceutical remedies which unleash specific resistive agents in the body and are suitable for radiological protection.

CEMA's "Biophysics" Accord

A particularly significant responsibility accrues to the Central Institute for Molecular Biology of the GDR Academy of Sciences for the systematic advance of work on CEMA's "Biophysics" accord signed in April 1971. This scientific program contains a series of concrete subjects which are worked on by 91 research organizations of different countries. Our institute cooperates in the solution of problems arising from four of the above-cited five approaches and performs the coordinating function for operations dealing with the structure, configurational changes (changes of the spatial ground state of molecules without a change in molecular bonding) and the self-alignment of polymers (proteins and nucleic acids belong to this class).

Thus the experiences gathered during the past years testify that concentration on focal points has resulted in time savings and particularly in the possibility of a comprehensive approach to certain questions. Purposeful scientific cooperation alone has facilitated, for example, the successful conclusion, within a relatively short time, of experimental investigations into the structure of certain proteins and constituents of the cellular nucleus as a precondition for the explanation of fundamental life processes in the molecular realm.

Of high importance are the new insights into cellular energy conversion achieved by a joint scientific collective from the Institute for Biophysics of the USSR Academy of Sciences and from the Central Institute for Molecular Biology. The development of a laboratory model of a photo analyzer for microstructures now being produced by VEB Carl Zeiss, Jena, is an important contribution to the rapid transfer of scientific findings into social practice.

On 30 November, at this year's "Young Scientists' Day" of the Research Center for Molecular Biology and Medicine, the eight participating institutes were able to introduce over 20 outstanding projects in basic and applied research. The first prize for this type of performance competition, so firmly anchored in the life of the FDJ basic organizations, was awarded to a young employee

of the Central Institute for Molecular Biology, for the development of an enzyme reactor model. Investigations that could thus be carried out have, among other things, great significance for the future application of biological working principles in the materials processing industry.

The effects of these and other results of molecular biological basic research cannot be described here in detail. Suffice it to indicate that, for example, the microbiological and pharmaceutical industry, the medical sciences and the agricultural sciences urgently need the progress of the above-cited research projects, which will enable the former to derive great benefits for the good of mankind.

CSO: 2302

BULGARIA

BULGARIAN ACHIEVEMENTS IN SPACE RESEARCH

Sofia TRUD in Bulgarian 30 Dec 77 p 1

[Article by Senior Science Associate and Candidate of Physical Sciences St. Chapkunov, scientific secretary of the Central Space Research Laboratory of the Bulgarian Academy of Sciences: "What 1977 Brought Us: Bulgaria -- a Space Power"]

[Text] Against the background of the jubilees common to all mankind (the 60th anniversary of the Great October Socialist Revolution and the 20th anniversary of the beginning of the Space Age), the joys that 1977 brought to the Central Space Research Laboratory of the Bulgarian Academy of Sciences look modest and humdrum.

On 1 December 1977 five years had passed since the day the People's Republic of Bulgaria became the 18th space power in the world. This small jubilee is dear to the staff of the Central Space Research Laboratory because it is linked with its selfless labor to create the first Bulgarian scientific sounding apparatus for direct investigation of outer space. By virtue of the injection into orbit and the successful operation of our instrument on board the "Interkosmos-8" artificial earth satellite, launched on 1 December 1972, little Bulgaria outstripped many more advanced countries in the sphere of direct space research.

The laboratory greeted our jubilee year worthily. For the first time in our practical experience two scientific instruments created at the Central Space Research Laboratory operated successfully at the same time on one object -- the "Vertikal-6" heavy geophysical rocket, launched on 25 October 1977, namely, a rocket electrophotometer to study natural atmospheric optical emissions and a combined instrument to measure structural plasma parameters. The dry minutes of the USSR State Commission contain a high appraisal of the laboratory's work.

During the past year research was successfully conducted in our country through the Soviet-Bulgarian Aircraft Laboratory.

Staff members of the laboratory received five patents for inventions in 1977; 55 publications were printed in Bulgarian and foreign scientific journals during the year.

A recognition of the good work of the Central Space Research Laboratory and an award we hold especially precious is the certificate we received from the Central Committee of the All-Union Communist Youth League declaring our TNTM [Technical and Scientific Creative Work of Young People] Club winner in the all-union review of the scientific and technical creative work of young people. We also count as our success this year the elevation of Central Space Research Laboratory director, Professor Dr K. Serafimov, to corresponding member of the Bulgarian Academy of Sciences.

The successes and recognitions during the past year will spur the staff of our laboratory to still more persevering and fruitful labor in the coming year of 1978.

6474

CSO: 2202

BULGARIA

ACTIVITIES OF AGRICULTURAL RESOURCES INSTITUTE DESCRIBED

Sofia KOOPERATIVNO SELO in Bulgarian 30 Dec 77 p 2

[Article by Professor Georgi Staykov, director general of the Introduction and Plant Resources Institute in the city of Sadovo: "Science a Productive Force -- Intensive Breeding Activity -- Main Tasks of the Introduction and Plant Resources Institute in the City of Sadovo"]

[Text] Agriculture must provide sufficient output of vegetable and animal origin to feed the population and for our food and gustatory industry.

The solution of these great problems cannot be achieved solely on the basis of experience and good wishes. An important share of this line of development falls to science. It alone is able to suggest new rational methods and interdisciplinary approaches to raise the level of production to a new and higher level. Recently an especially great deal of attention has been paid to agricultural science and to its all-round development, improvement and closer alinement with production.

The creation of the Introduction and Plant Resources Institute is an expression of this policy. By special order of the minister of agriculture and the food industry a new large scientific center, the K. Malkov Introduction and Plant Resources Institute, was created in the city of Sadovo (Plovdiv Okrug), effective as of the beginning of this year, on the basis of the K. Malkov ZOS [zonal experimental station], the experimental strain-maintenance station, and the Introduction and Plant Resources Institute in Sofia. It has four experimental centers in Sadovo, Breznik, Koprivshtina and Sofia with an area of 36,000 decares, as well as a staff of more than 1000.

The institute maintains contacts with more than 625 international scientific institutes and botanical gardens in 81 countries. It has 103,000 seed specimens. At the moment plans are in preparation to coordinate with the Food and Agriculture Organization of the United Nations on the construction of new buildings with specialized laboratories and a modern seed depository.

All this confronts the staff of the institute with the important task of developing great activity that will meet the new and higher demands of scientific and technical progress in agriculture. The more central tasks of the institute can be formulated thus: the search for and introduction of wild and domesticated species of plants, of new valuable strains and specimens with enriched genetic structure which will be used for purposes of future breeding. To achieve this function, we shall have to employ extensively the method of intensive correspondence work and the organization of expeditions within the country and abroad to search for valuable local forms and other systematic units possessing a complex of biologically and economically important qualities and properties. This is especially important now that technical progress and the concentration and specialization of production are leading to the constriction and elimination of some of these aboriginal forms.

Another important task of the institute is to make a rapid and multifaceted appraisal of the plant material and specimens of species, varieties and strains brought in via various avenues. It is especially important to make a rapid and comprehensive evaluation of biological properties, economic and technological qualities, resistance to diseases and pests and to unfavorable environmental conditions etc. After this, the materials must be made available to specialized scientific research institutes as initial materials for breeding. The ones that show potentialities for direct use should be included in strain-testing at state strain-testing stations with a view to zoning and adoption in practice.

The accurate and detailed morphological and anatomical description of all materials and specimens for the purpose of their systematization and comprehensive characterization is also an important function of the staff.

Necessary in addition is a thorough study of the plants and seed specimens, their genital apparatus and their capacities to combine with other species of plants of closer or more remote families. The proper performance of this function makes it possible to see now the prospective usability of the material. Phytopathological research is also an important prerequisite for fuller and more comprehensive characterization of the specimens to hand.

The preservation of seed grain and planting stock and the study of the great and complicated problems involved in seed dormancy, their physiological and biochemical peculiarities, their relation to conditions of the external environment, the possibilities of controlling these processes have an important place in the institute's work.

The large problems of the institute, on the basis of its structural echelons, are: the breeding of wheat, peanuts, sesame and the poppy -- these strictly specialized southern crops; clonal selection of potatoes etc. In the area of wheat and southern-crops selection the institute has considerable experience and good results have been achieved. An example

in this regard is the ever wider introduction of the Sadovo-1 strain. All areas under peanuts, sesame and poppy have strains created at the institute. At the moment there are a number of new candidate strains and prospective lines of wheat, poppy, peanuts and sesame which will go into production in the near future.

The institute's obligations are great in the area of strain-maintenance and seed production. Potato and rice strain-maintenance and seed production for the whole country are carried out under its supervision. And this year the institute delivered to the country huge quantities of seeds and planting stock for wheat, corn, rice, potatoes and essential-oil crops -- anise, poppy, rezene [transliterated from the Bulgarian; unknown], coriander. Only the institute produces super-stock and mother-stock rice and potato seed.

The staff maintains close contacts with all specialized institutes in the country where work on introduction and plant resources is conducted and coordinates these great problems. At the same time it also renders valuable assistance to the agroindustrial complexes in the country.

All this shows that the Introduction and Plant Resources Institute in Sadovo is shaping its image as a major scientific center studying the fundamental principles of introduction and plant-resources work in order to serve as the country's genetic bank for the purpose of accelerating the selection process and creating new strains of highly productive plants. At the same time and parallel therewith, it evolves intensive work to improve the breed of wheat and southern crops and large-scale activity in strain-maintenance and seed production for rice, potatoes and essential-oil crops of the Umbellifera family. The broad contacts that the institute has with different countries in the world, as well as its close contact with the UN Food and Agriculture Organization shape its international activity.

6474

CSO: 2202

BULGARIA

NEW SEED VARIETIES LISTED

Sofia KOOPERATIVNO SELO in Bulgarian 30 Dec 77 p 2

[BTA story: "New High-Efficiency Varieties"]

[Text] Varieties are of decisive significance for the high efficiency and high quality of agricultural production. That is why the efforts of our breeders are directed towards the sound establishment of variety structure and the rapid adoption of new varieties in practice.

At yesterday's plenum of the State Variety Commission it was emphasized that this year 1183 varieties and hybrids of 32 field crops, 945 varieties and hybrids of 25 vegetable crops and flowers, and 1280 varieties of fruit trees and vines were studied. This large-scale activity of our scientists was greatly helped especially by the pretesting of plants. This is done usually at two or three -- and for a few crops at four -- experimental stations.

Research on new Bulgarian varieties of winter soft wheat of the best productivity and valuable economic qualities discovered the following varieties: 3837-5, 137-64, 3818-10 etc.

3837-5 Winter soft wheat displayed the greatest productivity this year, surpassing in grain yield even such a highly productive, established variety as Sadovo-1 and ranking first.

Our plant-breeding is also developing at a very rapid rate in the area of vegetable-growing. It was found that the most promising varieties of tomatoes for hothouse production are Rezistaze and Viroza 318.

In recent years great progress was made in the area of orchards and vineyards. One thousand two hundred eighty varieties were tested, the greatest number of which were grapevines, apple-trees and peach-trees.

The plenum considered proposals to recognize and zone 84 new varieties of field and vegetable crops, fruit trees and vines, as well as new hybrid breeds of beans.

6474

CSO: 2202

CZECHOSLOVAKIA

BRIEFS

INSTRUMENTS FOR SATELLITES--The Tesla's Electronics Department--The A. S. Popova Research Institute of Communications Technology--develops and manufactures scientific apparatus for the interkosmos satellites. So far 18 apparatuses, consisting of 32 instruments, that were developed by it have been installed in 10 satellites. [Prague RUDE PRAVO in Czech 4 Jan 78 p 1 AU]

CSO: 2402

HUNGARY

RESEARCH, RESULTS IN DEVELOPMENT, PRODUCTION OF HYBRID INTEGRATED CIRCUITS

Budapest MUSZAKI ELET in Hungarian 16 Dec 77 p 6

[Text] On the basis of achievements of primarily the USA and USSR, Hungary, too, has developed hybrid [integrated circuit] technology, and is now fabricating such circuits in ever increasing quantity. However, their special advantages are insufficiently known as yet in our electronics industry although there are numerous tasks for which this technology is particularly well suited, tasks which at present are still being solved with discrete elements and printed circuit processes.

Gyorgy Wollitzer, scientific deputy director of the Communication Technology Industrial Research Institute (HIKI) was asked for information about results attained to date in development and production. Wollitzer provided the following information:

"Research and development were begun at our Institute with the backing of the National Technical Development Committee (OMFB) and Ministry of Metallurgy and Machine Industry. We worked out techniques for making integrated resistance and line networks. Of the three technologies generally in use which complement one another in technical characteristics, two are vacuum processes (so-called thin film techniques); in one case we vapor deposit a nickel-chromium resistance film and a gold conducting film on a glass substrate; in the other, we vapor deposit a tantalum-nitride resistance film on a glass substrate. We produce the resistance and conducting networks by a photolithographic process with the vapor deposited layers. In the third process--the so-called thick film technique--we print the conductive and resistive elements on an aluminum oxide ceramic base through precision screen pressure, using fine metal pastes. Then we bake them at high temperatures. We have worked out micro-assembling techniques as well as the construction principles of integrated circuits.

All three methods have been successful, and we can fabricate resistance elements which equal the most precise resistances presently known in mass production (0.1 percent stability, low temperature coefficient, minimal noise factor). The new kinds of resistances and lines are prepared on the

insulating substrate in very fine definition, and the printed isolating layers make crossings possible. In fact, it is possible to create multilevel conducting layer systems. The smallest dimensions of the elements are on the order of 100 - 200 microns. The interesting feature of these technologies is that during the vacuum process all resistances come into being on the substrate in the course of a single process so that they have identical properties; they age at the same time and change with every use. The value of the layer resistance can be modified later. This means that we can set the networks at as narrow tolerances as desired. We do this by blowing sand, by a laser process or by the oxidative narrowing of the layers using automatic control. Small synchronous networks of this size cannot be made by selecting classical resistances. "Unlike semiconductors which are economical when produced in large series, the new process permits fabrication of the integrated version of a new circuit quickly, in small series and at relatively low cost provided the proper technological conditions are available. Hybrid techniques are economical in the case of individual solutions, for small and medium series of 1,000 - 10,000. "With the results of domestic research at hand, HIKI began trial production; the production of hybrid circuits in series began at the Remix Radio Engineering Factory. Gradually increasing production is now worth 100 million forints which is a substantial amount in view of domestic use of integrated circuits. Its advantages are used in UHF radiotelephones, transmission technology, instruments, antenna amplifiers and vehicle electronics.

"On the basis of the technological results, it was possible, with the support of the OMFB, to begin a 5-year applications technology research project the purpose of which is to have HIKI identify those areas in the electrotechnical industry in which use of hybrid circuits would be advantageous. At the same time, it would be beneficial if the designers of the apparatus were more familiar with the possibilities. For this it is necessary to terminate the practice pursued to date of basing design entirely on catalogues; close cooperation must be established between the designers and the specialists in hybrid circuitry. In essence, this is what the application technology service of HIKI is already attempting to do."

Gyorgy Wollitzet emphasized that the matters he had mentioned were not solely Hungarian problems; the electronic industries of Western Europe and the peoples democracies were having similar experiences. The advantages of the mass production of hybrid circuits have been recognized only in the USA and the Soviet Union so far. This plainly rebuts the view still aired in Hungary that hybrid technology is merely transitional step in the field of integrated circuits in the direction of semiconductor technology. Yet practice proves that the two technologies complement one another and are developing parallel to one another wherever the technical economic advantages of the process are utilized through adoption of modern manufacturing techniques. These advantages call for us to adopt an appropriate viewpoint quickly, for close connections between designers and specialists in hybrid technology and for the realization of quasi-mass production in Hungary as soon as possible.

ORIGINAL METHOD FOR CANCER DIAGNOSIS HAILED

Bucharest FLACARA in Romanian 29 Sep 77 p 10

/Article by N. Grogore Marasanu/

/Text/ Issue No 23 dated 10 June 1976 of journal FLACARA carried an article (Romanian Priorities) in which we drew attention to the fact that the Romanian researcher engineer pharmacist N. Ionescu-Dimbovita had made a statement to a team of French scientists, led by Prof Francois Jacob, Nobel Prize Winner. The statement said that underlying the appearance of cancer is a unique carcinogenic substance (toxin) whose structure and chemical composition he knew.

The Romanian scientist N. Ionescu-Dimbovita attended the 1972 international oncological meeting held at Wiesbaden, in the Federal Republic of Germany, where he set forth his own theory on the origin, evolution, and treatment of cancer. It was stated, inter alia, that the disease was the cause of a process of suffocation of life, in the developed cell, through a cancerous predisposition it originally inherited. As time went by, the cell's cancerous predisposition lessened but continued to be transmitted through genetic information. Today, under the influence of the many pollutants, a toxin develops in the cell. If this toxin reaches a limit amount, it awakens the cancerous predisposition in the cell.

When the toxin's limit amount has developed, in the most vulnerable cell a disruption of the cellular electrolytic mineral metabolism occurs. The cell no longer functions normally in conformance with the law of reversibility and its function becomes irreversible. Once cancerated the sick cell becomes an active energy site, develops on a chain basis and destroys the body's self-defense. This theory was published in the German review BILD AM SONNTAG, dated 21/22 May 1972.

As early as that time, some oncologists such as the German professor E. Grundmann felt compelled to acknowledge a great part of the statements of the Romanian pharmacist N. Ionescu-Dimbovita. But recently, another specialized German review BIOLOGISCHE MEDIZIN No 2, 1 April 1976 and later No 6, December 1976 carried aspects of the theory of the Romanian scientist.

The scientific debate on this primary Romanian discovery of outstanding importance in oncology demonstrated at the International Congress of Homotoxicology held in Baden-Baden on 24 October 1976 that the use of a sole antidote could prevent the formation of metastatic tumors in laboratory animals or human patients with primary tumors.

In this article we do not plan to quote all the material printed in the two specialized reviews. What seems surprising to us is that the Romanian researcher stated, as a result of many tests on animals, birds, and even humans, that he succeeded in identifying this substance which makes the cancerous cell vulnerable and, moreover, knows its composition and structure. Based on this discovery, he stated that he developed a phyto-physio-hyperthermic method with which he could save patients in the first two stages of cancer, in a proportion of 100 percent. Of course, the method involved could also be applied to cancer patients in more advanced stages but not with such high rates of cure.

Because all specialists acknowledge the fact that tracking cancer in the early stage results in complete treatment, the Romanian research worker N. Ionescu-Dimbovita told us with boldness but also with the spirit of responsibility involved, that after many years of work, searches and tests he developed an efficient method of serologic diagnosis for cancer. The test involves collecting five cubic centimeters of venous blood or 3-5 cu cm of sick tissue, samples collected painlessly from patients. His biochemical spectrocolorimetric method is only used for a few minutes on the sample. The procedure becomes spectacular and we report it with a thrill. When it is used on a mass scale, like any other test, the potential patients or the patients could be detected and subjected to treatment. At this writing, we have before us the reports of two medical commissions that indisputably certify the 100 percent efficacy and the extreme rapidity of this testing method. The tests which involved the Romanian scientist were strict. For instance, they included the "double blind" method, the world most serious method for testing the efficacy of a drug. But every time the results did not involve any error whatsoever. We quote from the summary of a result: "The results reported in consequence of the tests based on the double blind scientific method confirm 100 percent the cancer serologic diagnosis made upon his own method by chemical engineer N. Ionescu-Dimbovita. We assess that these results justify the trust in the accuracy and prospects of this method. Moreover, we consider it very necessary to create conditions for the development and furtherance of this research." It is signed by the members of the commission, reputed physicians of doubtless competence.

The results of the research conducted by the Romanian scientist N. Ionescu-Dimbovita are all the more serious because they did not occur overnight but after a long study of more than 25 years which involved great obstacles. Because he had a long laboratory

experience and advanced knowledge of biochemistry, electrochemistry, biology, anatomopathology, and other sciences involved in the study of histology and cytology, he was able to penetrate the mysteries of the human body and study it. Consequently, he reached the conclusion that the change produced in the cellular metabolism, with cancer as the effect, is due to a biochemical factor which, as pointed out above, he designates as "toxin." Through a biochemical process this toxin disrupts the metabolism of the nucleic acids, by modifying the nitric bases in their composition, so that by going as far as altering the proteins it triggers cancerization. Hence, he is convinced that the theory of the very rapid, anarchical proliferation of the sick cells over normal cells or tissues is outdated. This is what he told us, among other things, in regard to the early period of this great revelation: "Diarrhea was working havoc among chickens. At one point I had about 400. I was afraid that the disease would get worse and cholera would develop. I administered betanaphthol in the feed. My trouble increased: the chickens developed cancer. In some I found tumors and even metastatic tumors." This was the crucial point, the spark which tied him for ever to the boundless hope of the world: the discovery of an antidote which would cure cancer! After many other tests he managed to induce malignant tumors by inoculation. This fact crystallized and strengthened his belief that the disease, cancer, was one of the most successful logistic tricks in nature.

Today, the scientific status of the Romanian researcher N. Ionescu-Dimbovita is arousing growing interest and becomes increasingly known in the world. The numerous papers on his desk -- memos, requests, and an ample correspondence -- include this invitation which we provide in full: "Dear colleague Ionescu-Dimbovita, I know of your trailblazing surveys in the field of cancer research and as chairman of the Annual Congress of the German Association for Tumor Treatment in Baden-Baden I officially invite you to attend our sessions as a participant and referent.

The sessions, as you know, will be held in Baden-Baden between 11 April 1977 and 11 June 1977. Please make a note of the theme: New Forms of Treatment. Sincerely, Prof Dr H. Denk. Vienna, 12 September 1977."

The Romanian scientist, engineer pharmacist N. Ionescu-Dimbovita made a point of stating in conclusion: By applying our completely unique methods of diagnosis and treatment of early stages of cancer, methods which are easily tolerated by any type of patients, the No 1 enemy of mankind can be subdued." A moving, unique statement! We are also gratified that our proper bodies and in the first place the Ministry of Health have begun to pay the necessary attention to using this sensational discovery.

In a future issue we shall provide more details on what has been done to promptly make use of this great discovery by a Romanian scientist and patriot.

ROMANIAN STUDIES ON ACUPUNCTURE CITED

Bucharest FLACARA in Romanian 29 Sep 77 p 10

/Article by Traian Iordachescu/

/Text/ A prestigious international medical congress was recently held in the Italian locality Riva del Garda. Its keynote was "New Frontiers in Reflexotherapy." It was sponsored by the Italian specialized body and the International Society of Acupuncture. The discussions focused on the ways to using in therapeutics the latest medical scientific discoveries including the electronography of the Romanian physician Ioan Florin Dumitrescu. The congress was attended by more than 400 researchers and practitioners from 20 countries and proceeded under the chairmanship of an outstanding authority, the famous professor of Turin Luciano Roccia.

At the congress Ioan Florin Dumitrescu focused on the principles and efficacy of electronography in establishing early diagnosis. He illustrated the report by showing the color film on this topic made by Francisc Patakfalvi at the Alexandru Sahia studio. Both the report and the film, whose copies were promptly requested in several countries, aroused great interest and long and appreciative speeches. Moreover, in Prof Roccia's closing address (to which we listened on tape) the Torinese scientist pointed out "the outstanding contribution of the Romanian specialists who, through electronography, blazed a trail which deserves to be followed with all efforts." In this context we must emphasize that at this congress Dr Dumitru Camarzan read the report "Results of the Use of Electronography in Occupational Medicine." The report was outstanding by the novelty of the study and especially by the broad casuistic base. Ioan Florin Dumitrescu was elected to the honorary presidium of the congress at the opening session and received many invitations to give lectures at several universities and medical schools in Italy. The Romanian specialist went to that of the city hall of Sulmona, in whose organization Academia di Romania of Rome was also involved. He participated in a round table conference which discussed problems of electronography. Similar requests came from the Padua and Turin universities and they not only involved lectures but also

the prompt introduction of the unique Romanian electronographic methods of early diagnostics by identifying the electrodermal points. Moreover, the congress at Riva del Garda decided to establish an international society of reflexotherapy and reflexo-diagnosis, with a special section devoted to electronography. The Bucharest physician was nominated as the head of the section.

In connection with the activity of Ioan Florin Dumitrescu we must emphasize that a few days ago the second book of this research worker appeared in bookshops. It was less than a year ago that the first volume "Omul si Mediul Electric" [Man and the Electric Environment] was published (Editura Stiintifica, 1976). The new book, entitled "Acupunctura Stiintifica Moderna" [Modern Scientific Acupuncture], is the outcome of the cooperation between Ioan Florin Dumitrescu and another distinguished specialist, Dr Dumitru Constantin (FLACARA recently wrote about his work and achievements). The book seeks and finds scientific explanations for all the phenomena related to acupuncture. The authors maintain and prove that acupuncture is not so much a method of treatment with spectacular results as a concept on the functional interaction of outer and inner, somatic and visceral structures, in general, a concept on the permanent relationships of the body with the environment.

Strictly speaking, acupuncture means pricking. According to a conventional meaning, it involves the action of the needle regarded as a therapeutical agent on points determined on the surface of the cutaneous covering. This designation -- the authors advance a new, revolutionary opinion -- does not express the historical or contemporary meaning of a genuine scientific discipline. The needle, the therapeutical agent, tends to become anachronistic in light of the modern arsenal of stimulus procedures acknowledged by medicine. However, the point treated by doctors Dumitrescu and Constantin as a receptor organ in the therapeutical act is "an anatomofunctional reality which also manifests itself as an effector organ in reflecting the functional and pathological phenomena inside the body."

The almost 400-page book is divided into two basic chapters: "Physiological Bases of Acupuncture" and "Clinic of Acupuncture." It includes short items on the equipment involved and on the psychological condition of the patient treated with acupuncture (in conjunction with C. Bolintineanu and P. I. Vasilescu, respectively). The book has a comprehensive bibliography. It reviews older and newer problems posed by acupuncture and also provides a multitude of hitherto unpublished views, based on work and study whose successful outcome, as we tried to point out above, are known beyond the country's borders, contributing with indisputable proofs to enhance the prestige of Romanian science internationally.

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ROMANIA

UNIQUE METHOD FOR VOICE RESTORATION DESCRIBED

Bucharest FLACARA in Romanian 29 Sep 77 p 11

[Article by Ovidiu Ioanitoaia]

[Text] The method on which this article focuses, of course, without going into strictly technical details, was designated as "Pedagogicotherapeutical Procedure for Singing and Speaking Voices." It originated in the more than 30-year experience of maestro Mihai Vasilopol, a former soloist of the Constanta Opera House, a musicologist, composer, and at one point literary secretary at ARIA [Romanian Artistic Booking Agency] and in his cooperation with his late wife, Anna Vasilopol, a formerly renowned singer of the Budapest Operette House. The procedure involves a complex methodology of exercises in vocalization or phonemes, worked out for the reactivation, recovery, and energizing of the neuromuscular system of the phonorespiratory system. The Vasilopol method can be equally remarkably used in the area of the singing voice and of the speaking voice, as a mark of superiority (we shall elaborate) over the conventional methods, which are used in one or the other area. While the conventional singing and phonoaudiological methods only involve the mesopharynx considering it as the sole area of the pharyngeal tube capable of producing and housing sounds, the Vasilopol method also takes into consideration the rhino or epipharyngeal sounds, rejecting the conventional concept according to which the epipharynx only involves an area for breathing. As pointed out above, we shall not go into details. However, we must emphasize that a multitude of illustrious Romanian and foreign opera singers and phoniatic experts have unreservedly praised the Vasilopol method which, unfortunately has been too little used so far in this country but is now being revitalized, thanks to the interest and full support of CNST [National Council for Science and Technology]. These experts stressed the outstanding importance of the method in restoring some deteriorated or impaired voices. For instance, under cooperation between Mihai Vasilopol and the Bucharest ORL Center for Phonoaudiology and Functional Surgery, headed by the reputed specialist Dan Hociota, Dr C. Bogdan prepared a scientific survey entitled "Restoration of Singing Voices by the Romanian M. V. Method." The survey was published

in the review OTORHYNOLARYNGOLOGY, No 1, 1975. It detailed the inner mechanisms of the method, on the basis of concrete cases. It concluded that "the results obtained so far and the assessments of foreign experts justify our considering this Romanian method as a completely new and revolutionary method." We quote further: "It is now the world's sole method for restoring famous singing voices and this gives it outstanding value. The principles of the method can be equally successfully used for restoring and reeducating speaking voices and this is another exceptionally relevant problem."

Brilliant confirmations of the Vasilopol method were provided this year in restoring singing voices in Italy, Belgium, the United States, Israel, and the Soviet Union. As early as 6 October 1974 the Soviet television had a broadcast on the method, fragments of operatic arias sung by students with restored or educated voices and interviews with them, praising the results of the application of the method. The repercussions of maestro Vasilopol's stay in Italy, following not only from the practical demonstrations or lectures given but also and especially from his work with reputed singers, including the singer of popular songs Nada and the coloratura soprano Antonetta Stella, could make up a genuine "book of honor." However, we shall only pick a few of the assessments given by celebrities in this area. "This scientific method has the bases for educating young voices and reeducating professional voices, with great results for the lyric art," Antonetta Stella wrote. Gianna Pederzini, professor of singing at Santa Cecilia di Roma, felt that "the method is very interesting." Another teacher of the above-mentioned singing school, Saturno Meletti, stated that "the application of Vasilopol's method may bring new voices and new successes to the lyric theater," an opinion shared by the Italian singer of Romanian descent Virginia Zeani: "It is a new, enthralling method." The two famous Italian tenors Mario del Monaco and Giuseppe di Stefano displayed interest in the method of the Romanian maestro. After a long conversation with Vasilopol, illustrated by practical demonstrations, Mario del Monaco wrote that the maestro was "a phoniatriest with an exceptional experience and a restorer of lost voices." Moreover, after a strict examination taken by Mihai Vasilopol before the members of the Committee of Experts under the Central Commission for Music in the Ministry of Tourism and Shows, minister Dario Antoniozzi on 23 March 1977 urged the managers of the Milan La Scala to test the method in this cultural institution which is the world's greatest opera house because "it was acknowledged that the method has a serious basis and credibility in the area of professional education of voices and in the area of restoration of voices damaged by age or disease.... The method must be promoted for subsequent dissemination and trial in Italy."

After the 1 July reply of the Milan City Hall, the body which sponsors La Scala "we certify the validity of the studies (of Mihai Vasilopol -- our note) and of the phoniatriest method, which have found proper application in our theater," the Italian minister of tourism and shows directed that as from 1 October 1977 the unique

Romanian method be tried and used in three other prestigious Italian opera houses, Parma, Venice, and Turin, and at the National Institute for Verdi Studies.

Concluding our report on the use of the Vasilopol method for voice restoration we shall also give the opinion of a specialist, the Moscow professor Leonid Borisovich Dmitriev, a phoniatic expert of world repute, chairman of the Moscow branch of the Union Society of Phoniatrics. He assessed the method as "extremely valuable and with good results. The voices of older singers sound penetratingly and adolescently and the voices of young singers have a fine timbre. In my opinion, outstanding are the greater resistance and the lack of fatigue in the voices educated by this method" (according to a broadcast interview).

As pointed out above, the Vasilopol method is the sole method which has uses in educating both the singing voice, as mentioned previously, and the speaking voice, with the latter area involving the work to cure or attenuate speech dysfunctions, specific disturbances, from stutter up to laryngectomy, a very serious trouble, with minimum chances of restoration, to which the Romanian phoniatic expert "could be useful as a result of thorough experimentation of the methodology" (quoted from the report of the Italian Association of Laryngectomized People to the Ministry of Health). In this area the method of the Romanian maestro was tested in several Italian state and private clinics. The assessments were very good and a common view was expressed by the director general of the General Directorate of Services of Social Medicine under the Ministry of Health, L. S. Ambrogio. He summarized that "the first results obtained from the use of the Vasilopol method in the treatment of speech defects and in treatment of laryngectomized people appear encouraging and suggest the continuation and stepping up of the tests." The above quotation is based on a specialized report from several Italian clinics and medical associations which have applied the Romanian method and have obtained good results. For instance, the National Association of Logopedia noticed "significant improvements" in the subjects treated. The Group of Audiophonologopedic Studies and Research, with headquarters in Rome, stated that it was "interested in the closest cooperation." The reputed professors Luciano Zernerri and Mario Cherubino of the "Umberto I" Hospital for Handicapped Children in Brescia and the Pavia University, respectively, voiced their enthusiasm over the novelty and efficacy of the Vasilopol method and suggested that new investigations and studies be made. A broad casuistic base is incorporated in a file which Mihai Vasilopol brought the other day to the editorial office. He was happy that after years of futile waiting, his method was now again being discussed, especially due to the firm action of the National Council for Science and Technology for which again we have praise and gratitude. In our opinion, most spectacular among the several tens of cases provided was that

of the Italian physician Donato Cioli, of Rome, who as a result of a car accident had completely lost his voice. Of course, he had tried all restoration methods, including a surgical treatment at the Massachusetts General Hospital in Boston. But his and his physicians' efforts did not result in any improvement. After 50 sessions with Mihai Vasilopol, Dr Cioli, according to his own written statement, noticed "a firm improvement in my capacity of emitting sounds.... I can now produce, it is true with some effort, sounds which I could not emit before the Romanian treatment."

Emphasizing that all the consultations, tests, and contributions of the Romanian maestro in Italy, Belgium, Austria, and other countries were on a free basis, in the name of human solidarity and the guaranteeing of people's health, regardless of nationality, we wind up this report, hoping that the Vasilopol method, confirmed by outstanding artistic and medical personalities, will be rapidly disseminated and wisely used also at home, as a new and significant proof of the Romanian mind in action.

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ROMANIA

ADVANTAGES OF 'SECOM' CONSTRUCTION MATERIALS

Bucharest FLACARA in Romanian 29 Sep 77 p 11

/Article by Victor Nita/

/Text/ If some 5 years ago we had published an article headlined, let us say, "Why Are the SECOM Products Not Accepted?" and at the end of this assumed article we had concluded that the SECOM products (metal scaffoldings and casings) are rejected because they have a great defect, namely they are much too new, well, 5 years ago, few people would have believed us and structural engineers would have smiled somewhat tolerantly. At any rate, it is certain that 4 or 5 years ago very few engineers who headed industrial or civilian construction sites accepted to try using SECOM products. An argument? In 1973, for instance, ICMP /Enterprise for Metal Structures/, and Prefabricated Parts through its section of metal structures at Popesti-Leordeni, had an annual output of almost 2,000 tons of metal scaffoldings and casings although the SECOM program was almost 5 years old. In 1969 the output was insignificant, 200 tons, and in 1973 it stood at 2,000 tons, a quantity for which with great difficulty a customer was found. Today, an annual output of more than 10,000 tons proves totally inadequate. In other words, in the area of construction sites there is now an actual hunger for SECOM products.

We have begun in this manner a report on an outstanding Romanian technical accomplishment which competes for all parameters with the latest counterparts in the world in order to spotlight again the long and winding path of new developments which always and everywhere encounter obstacles but ultimately triumph and assert themselves. Because we have planned to only describe this technical achievement and not to make a detailed investigation on the rejection of SECOM products several years ago, here are a few of the qualities of these products which have simply dynamized the rate of construction. But before reporting our conversation with Engr Cornel Munteanu, head of the Production Service, and engineer technologist Gheorghe Vaduva, we interviewed Engr Florea Stefanescu, technical director of ICMP, who, we may say, traced the history of the SECOM project: "Unlike a few years ago, the SECOM products now are in a demand which I personally hoped only in my moments of incertitude or euphoria, because, I must admit, there also were such

moments. If I were asked why we are not producing 100,000 tons of SECOM products, because now there is such a great demand in terms of quantity, I would provide the following answer: In the first place our enterprise does not limit its activity to this, that is we have also been allotted other tasks. In the second place, after a specific period, the demand will be lesser because many of the current gaps will have been filled. Why are they in such a great demand? This is a question to which engineers Munteanu and Vaduva will be able to provide a clear and documented answer, at least theoretically, because for several years now these two men have intertwined their lives with the SECOM project."

"The project was begun in 1969. It involved the first stage when we turned out the Bacau metal scaffolds, the self-lifting platforms and the all-purpose casings for poles, walls, and beams. The second stage, which commenced in 1973, is characterized by the diversification of the range of casings, including the heavy metal casing for walls and floors or the CP-100 walking casing, supplemented with two other types, CP-200 and CP-300, or the casings for the towers with the same height section, more exactly, industrial towers or chimneys. The great advantages in using these scaffolds and casings are the following: they eliminate timber in a proportion of 95 percent, increase productivity by a factor of almost 3, and achieve an almost perfect casting of concrete so that finishing is minimal. In comparison to conventional wood casings, the metal casings ensure a three times higher working speed. This means that for a timber casing 1 square meter of concrete was cast in 3.44 h while for the metal casing this operation only takes 1.09 h. After 20-25 reuses the timber casing became unusable while the metal casing was reused 300 times and even more, until the rust eroded it. Moreover, if the fitters who use it handle it carefully without bumping it, if they clear the mortar immediately after usage, if they oil it and, briefly, if they operate it with care, the metal casing could be even used 500 times" (Engr Cornel Munteanu).

"Actually, the SECOM products offer so many advantages in terms of quality and labor productivity that they cannot even be compared with the conventional timber scaffolds and casings. The SECOM products can only compare with their counterparts in other countries and they are on a par with the best makes in this area. SECOM products also have the following advantages: safe operation, storage which does not involve special facilities, very small weight in comparison to the forest of wood scaffolds, manpower savings, and adaptability and constant recombination of the elements which are assembled similarly to building blocks. Consequently, SECOM products are fit for any kind of casing on level surfaces. We must emphasize that SECOM products have partly eliminated the joiner's trade and in exchange advanced the fitter's trade or, if you will, the operation even requires a new trade, that of the "secomist."

But in order to fully realize these advantages and especially the results of the use of our products, it would be interesting to note the difference between labor productivity on a construction site which utilizes SECOM products to the full and labor productivity on a construction site which uses conventional wood casings" Engr Gheorghe Vaduva).

As far as we are concerned, beyond the brief survey of this spectacular Romanian technical achievement, we shall in due time follow the above-mentioned suggestion.

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